UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

MEMORANDUM

June 29, 2011

SUBJECT: Evaluation of ground water mitigation language for fluometuron for a potential Special Local Needs registration on cotton
DP Barcode: D389610
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TO: Debra Rate, Chemical Review Manager
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As a result of reregistration, language was added to labels of fluometuron products used on cotton restricting the use of the products in certain counties in Alabama and Georgia as a result of monitoring data showing that fluometuron was detected in ground water resources at levels at or near risk thresholds for human health in areas of karst terrain. In particular, use was restricted from Sumter County, Georgia. As a consequence of this action, the state of Georgia is considering a special local needs registration (SLN) to allow use in this county. The state is consulting with OPP on possible alternative label language which would be acceptable to the Agency, but still protective of ground water. Pesticide Re-evaluation Division has asked EFED to consider possible label mitigation which could replace the county-wide ban of fluometuron. Specifically, EFED has been asked to consider the following language which was modeled after language on telone labels.

- Do not apply within 100 feet of any well used for potable water.
- Do not apply to fields with dewatering or agricultural drainage wells.
- Do not apply this product within 100 feet from the edge of karst topographical features. Karst topography is identified from landscape features that result from the dissolving activity of water in carbonate rock formations (limestone, dolomite, and marble). Surface features that are associated with karst topography include sinkholes, caverns, springs, and

sinking or disappearing streams. Where groundwater aquifers exist at a depth of 50 feet or less from the surface, do not apply this product where soils are Hydrologic Group A.

There are four specific restrictions in the above proposed language: 1) a 100 ft buffer around drinking water wells, 2) a restriction on use in fields with dewatering wells, 3) 100 ft buffer around karst features, and, 4) a restriction on use over shallow aquifers less than 50 ft in depth overlain with permeable soils.

With regard to restriction 1, the success of wellhead protection buffers depends on the depth to ground water, the rate of lateral ground water flow, and the degradation rate of the pesticide in ground water. While buffers around wellheads will reduce contamination of drinking water at the well, the range in effectiveness can vary from almost nothing to complete reduction. Because no evaluation of buffer effectiveness has been made, it is not possible to comment on the efficacy of a 100 ft buffer in this particular case. With regard to the flow rate in the aquifer, movement is likely to be faster in karst aquifers than that in previous assessments (D333309, D362182) which were based on rates estimated on the Central Ridge of Florida.

Restriction 2 has been added specifically for the fluometuron label. EFED agrees that restricting the use of fluometuron from fields with dewatering wells will substantially mitigate risks associated with these wells. Note that a dewatering well is a well used to remove ground water and lower the water table. An agricultural drainage well is a well into which surface water from the field is drained into ground water. Dewatering wells can impact ground water quality by providing a conduit for the entry of surface flows into ground water.

The restriction of 100 ft from karst topographic features (Restriction 3) will reduce concentrations in ground water somewhat, but probably not mitigate fluometuron occurrence entirely as fluometuron can be expected to be easily transported 100 ft overland to karst surface features once concentrated flow develops. It should be noted that karst features are by their nature, usually direct conduits to ground water. As an alternative to the 100 ft buffer, restricting use from fields with karst features such as sinkholes or cave openings, as has been done with agricultural drainage wells, would be much more likely to mitigate most risk.

EFED agrees that the general restriction on the use of fluometuron on permeable soils over shallow aquifers less than 50 ft in depth (Restriction 4 is useful in mitigating the general movement of fluometuron to ground water at vulnerable sites. This language is similar to that which has been frequently used to mitigate movement to ground water for mobile pesticides.

While this language is acceptable mitigation for use on this SLN registration, it should not be used as a model for further mitigation unless a more thorough evaluation of the mitigation efficacy is conducted.

Citations

D333309. Thurman, Nelson, and Jonathan Angier. 2006. *Drinking Water Exposure Assessment for Total Aldicarb Residues (Parent, Aldicarb Sulfoxide, and Aldicarb Sulfone) Based on*

the N-Methyl Carbamate Cumulative Risk Assessment. Internal EPA Memorandum to Sherrie Kinard dated October 2006.

D362182. Jones, R. David, Reuben Baris, and Marietta Echeverria. 2009. *Response to comments on EPA's proposed tolerance revocations for carbofuran specifically related to drinking water exposure assessment.* Internal EPA Memorandum to Jude Andreasen dated April 29, 2009.